

*CLIMBING ASPARAGUS*

*Asparagus africanus* Lam.

*Other species names:*

*Protasparagus africanus*

*Other common names:*

*Orange fruited asparagus fern*

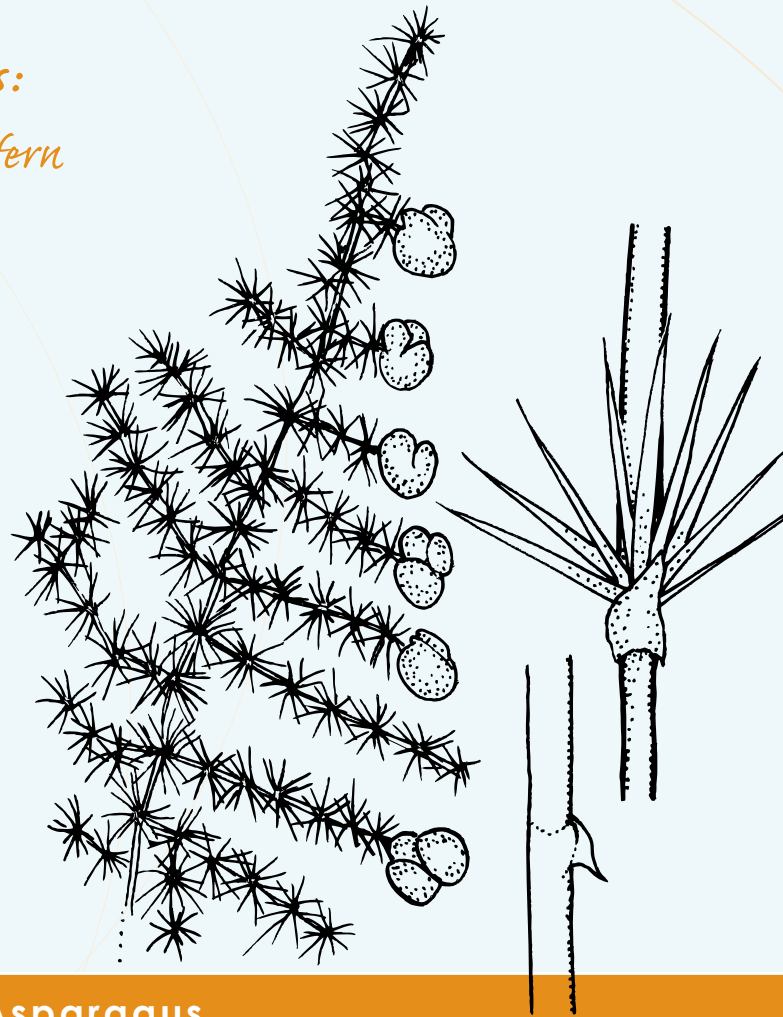
*African asparagus*

*Other climbing asparagus*

*weeds:*

*Asparagus plumosus*

Drawing of *Asparagus plumosus*, closely related to *A. africanus*. Flora of NSW



Section 06 : Climbing Asparagus

Climbing asparagus invading remnant vegetation. Photo DNRMW

Climbing asparagus growing on a fence line. Photo DWLBC

Climbing asparagus is a perennial climber reaching up to 8m into trees, and can often completely cover smaller trees, understory shrubs and ground layer plants. Roots are fibrous and form dense mats just below the soil surface, which presumably interferes with the establishment and survival of seedlings of native species (Stanley 1994). The stems of mature plants originate from a fleshy underground crown up to 60cm in diameter. Each stem measures 1-2cm in diameter and possess numerous, persistent, curved spines, each up to 2cm long (Stanley 1994).

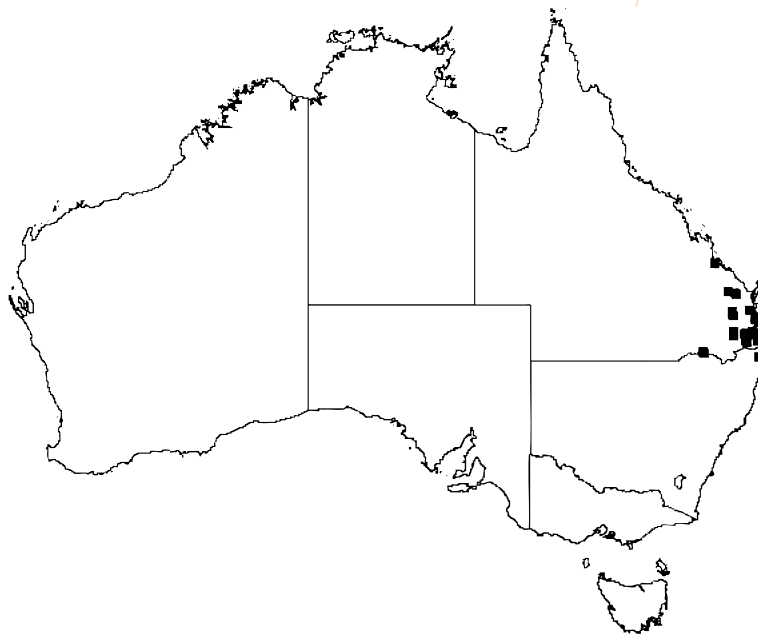
This species is most prominent in remnant semi-evergreen vine thicket/ Brigalow forest communities, particularly in the Marburg-Boonah districts of southern Queensland, and is also present in many moist gullies. It out competes and smothers much of the native vegetation among which it occurs (Conran and Foster 1986).

In cultivation, climbing asparagus plants flower 36 months after germination (Vivian-Smith unpublished data). Mature plants generally flower in response to the first major rains after the August to September dry period, which is characteristic of subtropical eastern Australia (Stanley 1994).

#### **Current and predicted distribution**

In Australia, climbing asparagus is found in rainforest, brigalow communities, some wetter eucalypt communities and adjacent roadside areas. Climbing asparagus has been mapped from Lismore in northern New South Wales to Rockhampton in central Queensland, and extend 100-120km inland.

#### **Map 1: Current national distribution. (Scott & Batchelor 2006)**

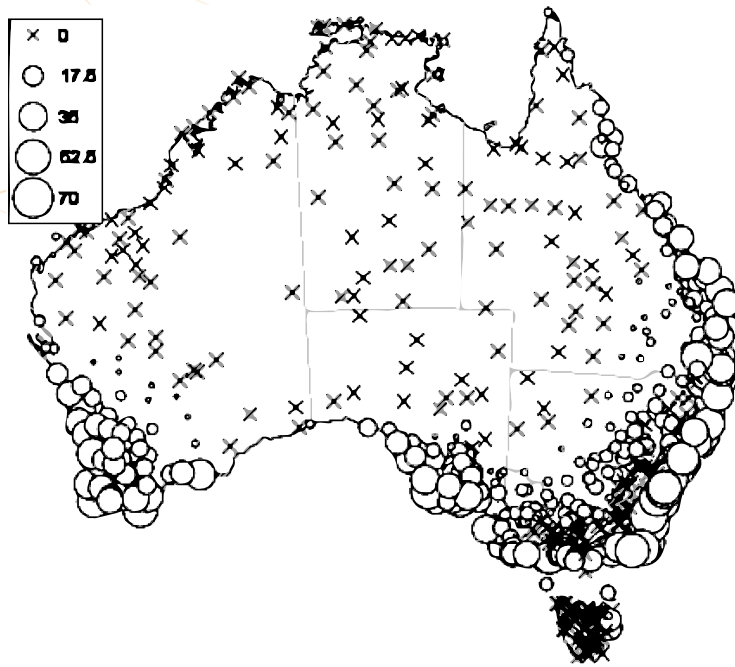


## Section 06

#### **Introduction into Australia**

A native of southern Africa, the exact date of introduction to Australia is not known but the species was probably introduced as an ornamental plant. It has been found growing as an ornamental climber in older gardens. The Queensland herbarium holds specimens collected from naturalised plants in 1976. Naturalised plants were known from the Ipswich area west of Brisbane in the early 1940's (Stanley 1994).

Map 2: Potential national distribution. (Scott & Batchelor, 2006)



#### Dispersal methods

In south-eastern Queensland, it has been observed that the silvereye (*Zosterops lateralis lateralis* (Latham)) and the southern figbird (*Sphecotheres viridis vieilloti* Vig. & Horsf.) feed on the ripened fruit of climbing asparagus (Conran and Foster, 1986). Transported soil, which has been contaminated with rhizomes and fruit containing seeds, has also been linked to the dispersal of climbing asparagus. Careless dumping of garden waste along roadsides and in native bushland is a contributing factor in the establishment of this asparagus weed.

#### Legal status of the weed

This weed is only declared in New South Wales and Queensland where it is posing the most threat.

All States and Territories periodically update their weed legislation. To check the updated weed list visit Australian Weeds Committee noxious weeds database at <http://www.weeds.org.au/noxious.htm>.

#### Description and life cycle

The life cycle of climbing asparagus is as follows:

- young seedlings establish and continue to produce tubers during wet periods from February to April.
- non-flowering shoots emerge during the autumn months of April and May.
- vegetative regeneration occurs in winter, from June to August.
- flowering shoots occur 20 months after germination, during late winter-early spring (August to September).
- plants begin to form fruits and set seed from late September to October.
- plants may dieback during the hot summer months from December through to mid February, however the sub-surface rhizomes will ensure the plants' survival.



**Flowers**



Flowers of the climbing asparagus. Photo DNRMW

**Appearance and characteristics**

- cream-white, 5-7mm long
- present from September to November.

**Berries and Seed**



Black climbing asparagus seed within bird scat, along with others. Photo DNRMW

**Appearance and characteristics**

- depressed globular berry, 5-6mm in diameter and ripening to a bright orange-red colour
- 1-2 seeds per berry, globular 3-4mm diameter and black.

### Cladodes (leaves) and Stems

### Appearance and characteristics



Climbing asparagus cladode, after treatment with herbicide.  
Photo DWLBC


- linear or somewhat flattened, 8-10mm long and approx. 0.5mm wide
- stems have numerous persistent recurved spines each up to 2cm long.



Stems of the climbing asparagus with distinctive recurved spines. Photo DNRMW

## Section 06



Root system	Appearance and characteristics
 <p data-bbox="312 1205 871 1267"><b>Stems growing from fibrous underground crown.</b> Photo DNRMW</p>	<ul data-bbox="1086 304 1474 405" style="list-style-type: none"> <li>• fleshy, whitish-brown rhizomes forming thick underground fibrous crown.</li> </ul>

### Controlling infestations

#### Physical removal

An experiment conducted at Tallegalla in south-east Queensland during 2000 and 2001 found the most effective method was mechanical removal, where the plant crowns were dug out and placed above the ground. Removing the plants from the soil and leaving them exposed above the surface was the quickest way to kill climbing asparagus. The plants desiccated quickly and were dead by 30 days after treatment. Although removing climbing asparagus crowns is very effective, it is time consuming and would only be suitable for isolated plants or small infestations. A mattock was used to dig out each crown and their attacked roots were suspended in a nearby shrub to ensure no re-rooting occurred. For this reason, removing climbing asparagus is impractical for larger-scale infestations (Armstrong, et al. 2006).

#### Herbicide treatment

The most effective herbicide treatment trialed during an experiment conducted at Tallegalla in south-east Queensland during 2000 and 2001 was a basal bark application of 24g triclopyr ester (40mL Garlon® 600) or 10g fluroxypyr ester (50mL Starane® 200) L-1 diesel. Plant health reduced quickly after application (within 40 days) although plants remained alive for many months. It took 300 days before all plants died, although no regrowth occurred after this time (Armstrong et al. 2006). A key finding of this investigation was that climbing asparagus is not susceptible to metsulfuron-methyl.

## References

Armstrong, T.R., Breaden, R. and Hinchliffe, D. (2006). The control of climbing asparagus (*Asparagus africanus* Lam.) in remnant Brigalow scrub in south-east Queensland. *Plant Protection Quarterly Vol 21 No 3*. Online <http://www.weeds.org.au/WoNS/bridalcreeper/>. Accessed 14/08/06

Conran, J.G and Forster, P.I. (1986). *Protoasparagus africanus* (Asparagaceae): A serious weed for south-eastern Queensland. *Austrobaileya* 2, 300-304.

Scott, J.K and Batchelor K.L. 2006, Climate –based prediction of potential distribution of introduced *Asparagus* species in Australia, *Plant Protection Quarterly*, Vol 21, No 2. Online <http://www.weeds.org.au/WoNS/bridalcreeper/>. Accessed 14/08/06

Stanley, T.D. (1994). The biology of *Protoasparagus africanus* (LAM.) Oberm. in eastern Australia. PhD thesis, Department of Botany, University of Queensland, St Lucia, Queensland, Australia.

Vivian-Smith, G. (unpublished data). Alan Fletcher Research Station, Sherwood, Brisbane. Department of Natural Resources, Mines and Water , Queensland.

## Appendix

Growth Calendar - Climbing Asparagus												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Flowering												
Fruiting												
Dieback												
Regrowth												
Germination												
General Growth Pattern												
Growth pattern in suitable conditions												
Adapted from Weed CRC Bridal Creeper Weed Management Guide												

## Section 06 Appendix